

AMENDMENTS TO THE CLAIMS:

1-7. (Canceled)

8. (Currently Amended) The holographic recording apparatus according to claim 1, A
holographic recording apparatus for recording a piece of data on a holographic recording
medium in a form of a flat plate which includes a recording layer comprising a photosensitive
material and for which recording is achieved by an interference pattern of a coherent light
beam, the apparatus comprising:

a pickup including an objective lens which focuses the coherent light beam, for
moving the objective lens along a recording track of the holographic recording medium and
detecting reflected light from the recording track to perform focus- and tracking-servo
control;

a relative velocity determination unit for determining a relative velocity of a
converging position of the objective lens with respect to the holographic recording medium;
a driving unit for changing a relative position of the objective lens with respect to an
optical path of the coherent light beam; and

a control unit for performing recording for the recording layer during a predetermined
period,

wherein the driving unit moves an incident optical path of the coherent light beam to
the objective lens ~~to make the relative velocity fall based on the relative velocity determined~~
~~by the relative velocity determination unit such that a moving distance of the converging~~

position relative to the holographic recording medium falls within a predetermined range half a period of a pitch of interference fringes at least during a predetermined period time period for recording the piece of data, the interference fringes being generated by the coherent light beam.

9. (Original) The holographic recording apparatus according to claim 8, wherein the driving unit rotates a mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

10. (Original) The holographic recording apparatus according to claim 8, wherein the driving unit rotates a polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

11-17. (Canceled)

18. (Currently Amended) The holographic reproducing apparatus according to claim 11, A holographic reproducing apparatus for reproducing a piece of data recorded on a holographic recording medium in a form of a flat plate which includes a recording layer comprising a photosensitive material and for which recording is achieved by an interference pattern of a coherent light pattern, the apparatus comprising:
a pickup including an objective lens which focuses the coherent light beam, for moving the objective lens along a recording track of the holographic recording medium and

detecting reflected light from the recording track so as to perform focus- and tracking-servo control;

a relative velocity determination unit for determining a relative velocity of a converging position of the objective lens with respect to the holographic recording medium; a driving unit for changing a relative position of the objective lens with respect to an optical path of the coherent light beam; and

a control unit for performing reproduction from the recording layer during a predetermined period,

wherein the driving unit moves an incident optical path of the coherent light beam to the objective lens ~~to make the relative velocity fall based on the relative velocity determined by the relative velocity determination unit such that a moving distance of the converging position relative to the holographic recording medium falls within a predetermined range half a period of a pitch of interference fringes~~ at least during a ~~predetermined period time period for reproducing the piece of data, the interference fringes being generated by the coherent light beam.~~

19. (Original) The holographic reproducing apparatus according to claim 18, wherein the driving unit rotates a mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

20. (Original) The holographic reproducing apparatus according to claim 18, wherein the driving unit rotates a polygon mirror arranged in an optical path of the coherent light beam to

move the incident optical path of the coherent light beam to the objective lens.

21-27. (Canceled)

28. (Currently Amended) ~~The holographic recording method according to claim 21, A~~
holographic recording method for recording data on a holographic recording medium in a
form of a flat plate which includes a recording layer comprising a photosensitive material and
for which recording is achieved by an interference pattern of a coherent light beam, the
method comprising:

a step of focusing the coherent light beam by an objective lens;

a step of moving the objective lens along a recording track of the holographic
recording medium and detecting reflected light from the recording track to perform focus-
and tracking-servo control;

a relative velocity determination step of determining a relative velocity of a
converging position of the objective lens with respect to the holographic recording medium;

a driving step of changing a relative position of the objective lens with respect to an
optical path of the coherent light beam; and

a step of performing recording for the recording layer,

wherein the driving step moves an incident optical path of the coherent light beam to
the objective lens ~~to make the relative velocity fall based on the relative velocity determined~~
~~by the relative velocity determination step such that a moving distance of the converging~~
~~position relative to the holographic recording medium falls within a predetermined range half~~

a period of a pitch of interference fringes, at least during a ~~predetermined period~~ time period for recording the piece of data the interference fringes being generated by the coherent light beam.

29. (Original) The holographic recording method according to claim 28, wherein the driving step rotates a mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

30. (Original) The holographic recording method according to claim 28, wherein the driving step rotates a polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

31-37. (Canceled)

38. (Currently Amended) ~~The holographic recording method according to claim 31, A holographic reproducing method for reproducing data recorded on a holographic recording medium in a form of a flat plate which includes a recording layer comprising a photosensitive material and for which recording is achieved by an interference pattern of a coherent light pattern, the method comprising:~~

a step of focusing the coherent light beam by an objective lens;
a step of moving the objective lens along a recording track of the holographic recording medium and detecting reflected light from the recording track so as to perform

focus- and tracking-servo control;

a relative velocity determination step of determining a relative velocity of a converging position of the objective lens with respect to the holographic recording medium;
a driving step of changing a relative position of the objective lens with respect to an optical path of the coherent light beam; and

a step of performing reproduction from the recording layer,

wherein the driving step moves an incident optical path of the coherent light beam to the objective lens ~~to make the velocity fall based on the relative velocity determined by the relative velocity determination step such that a moving distance of the converging position relative to the holographic recording medium falls within a predetermined range half a period of a pitch of interference fringes at least during a predetermined period time period for reproducing the piece of data, the interference fringes being generated by the coherent light beam.~~

39. (Original) The holographic reproducing method according to claim 38, wherein the driving step rotates a mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

40. (Original) The holographic reproducing method according to claim 38, wherein the driving step rotates a polygon mirror arranged in an optical path of the coherent light beam to move the incident optical path of the coherent light beam to the objective lens.

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41-53. (Canceled)